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<p>(21) International Application Number: PCT/GB99/00495</p> <p>(22) International Filing Date: 18 February 1999 (18.02.99)</p> <p>(30) Priority Data:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 30%;">98/1341</td> <td style="width: 30%;">18 February 1998 (18.02.98)</td> <td style="width: 40%;">ZA</td> </tr> <tr> <td>9819250.3</td> <td>3 September 1998 (03.09.98)</td> <td>GB</td> </tr> <tr> <td>09/151,532^{7/2}</td> <td>11 September 1998 (11.09.98)</td> <td>US</td> </tr> <tr> <td>9901490.4</td> <td>22 January 1999 (22.01.99)</td> <td>GB</td> </tr> </table> <p>(71) Applicant: JOHN HUXLEY LIMITED [GB/GB]; 20-34 Raynham Road, London N18 2PF (GB).</p> <p>(72) Inventors: LINDSAY, Jeffrey, Paul; John Huxley Limited, 20-34 Raynham Road, London N18 2PF (GB). CIMRING, Daniel, Gary; John Huxley S.A. Pty., 12 Gallagher Place, Cnr. Richards and Suttie Road, Halfway House, Midrand, Johannesburg 1685 (ZA). MELAS, George; John Huxley Limited, 20-34 Raynham Road, London N18 2PF (GB).</p> <p>(74) Agent: LUCKHURST, Anthony, Henry, William; Marks & Clerk, 57-60 Lincoln's Inn Fields, London WC2A 3LS (GB).</p>			98/1341	18 February 1998 (18.02.98)	ZA	9819250.3	3 September 1998 (03.09.98)	GB	09/151,532 ^{7/2}	11 September 1998 (11.09.98)	US	9901490.4	22 January 1999 (22.01.99)	GB
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<p>(54) Title: CASINO GAMES AND GAMING APPARATUS</p> <p>(57) Abstract</p> <p>A gaming table arrangement comprises a gaming table (1) adapted for the playing of at least one live game, a visual display (30) associated with the table (1) and visible to players of said game at said table, and control means (5) arranged to control the operation of said visual display means to display video sequences or interactive multimedia programs or other information. A table game may include a secondary game whose outcome is not dependent on the outcome of the primary game. A bet acceptor (116) for accepting bets on the secondary game has a central chip detector (601), a first illuminated ring (603) that indicates that a bet has been accepted and a third ring (607) to indicate that a player has won the secondary game prize.</p>														

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Casino Games and Gaming Apparatus

The present invention relates to games and gaming apparatus for casinos and more particularly relates to interactive gaming apparatus including means for displaying scores and other interactive information to players.

It has been known to provide live gaming tables with some rudimentary form of display. For example, on a roulette table it is known to sense automatically the winning number and to display the numbers for past spins on a dot matrix type display apparatus. Such a display apparatus commonly has a black background and therefore, while it is possible to use red LEDs to display the red numbers and green LEDs to display the green numbers, it has not been possible to use black for the black numbers and one common practice is to use yellow for displaying the black numbers. Such a simple display is therefore limited in its usefulness and in the range of information it can present to the players.

It is also known to run secondary games in casinos, in which players at more than one table can participate, in addition to playing the primary games being played at the respective tables. The outcome of the secondary game is linked to the outcome of the primary game.

The present invention is directed to the provision of an improved gaming environment in which player participation in the games is facilitated and encouraged. This is provided, in preferred embodiments, by improved display of results of the primary game and also by a novel form of secondary game and improved presentation of the secondary game.

The present invention therefore proposes, in a first aspect, the provision of a display at a gaming station which is arranged to display not only results etc. in relation to the game at the gaming station but may also show other information, particularly graphic images and moving picture information such as video footage. The video may show information related to prizes available or information related to the secondary game in which the players at the table may be taking part, recent game statistics from the gaming station, advertising, or promotional information, for example.

In more detail, the present invention provides a gaming station arrangement comprising a gaming station for playing at least one game, a display associated with the station and visible to a player of said game, and control means for said display. The display may be configured to display video, interactive multimedia programs or other information.

A single display can be associated with a single gaming station or two displays may be associated with a single gaming station or one or more gaming stations may be associated with a single display. For example, a plurality of gaming stations may each have their own display and each may be in view of a larger shared display. This larger display may display information relating to all the gaming stations or, if there is something of particular interest going on at one of the stations in the casino, may display information from this particular station.

This larger screen may be suspended from the ceiling.

Preferably the gaming station is a gaming table such as a roulette table or a blackjack table, but it may also be a slot machine, an amusement with prizes machine, or another gaming device.

Preferably, the control means is sensitive to the outcome of the game played at the gaming station and is arranged to display the winning numbers or winning hand for example on said display. The display could also display statistics relevant to the game being played at the associated station. For example, if the gaming station is associated a roulette table, the display could display data showing the statistics concerning recent winning numbers. If the gaming station is a blackjack table, then the last 20 dealer hands provide useful statistics for the players.

Additionally or alternatively, the control means is arranged to display video sequences relating to prizes available to a player. For example, a video sequence may illustrate cruises, holidays or cars available as prizes. Alternatively, the video may advertise other services associated with the casino. For example, if the casino is in a hotel, the video may give information about the hotel. Alternatively, or in addition, the display may be connected to the Internet or a news provider. The display could then display news, emergency bulletins etc. which are not necessarily connected with the casino. Messages such as teletext type messages may be transmitted over the images on the display, to provide additional information or news. The display may also be used to display information about the table game, or if the display is associated with a slot machine device, about the game such as play instructions, payoffs or the like.

Further, the apparatus may include loudspeakers arranged at the table in conjunction with the visual display means and also a microphone for use by the dealer at the table. The loudspeakers may be used to provide sound related to what is shown on the visual display unit. They may also be used in conjunction with the microphone to facilitate the dealer's encouragement of and communication with players who may join the game at the table.

The control means may be configured to run a sequence of videos which can accompany different sections in the playing of a game. For example, in a roulette game, a first video in the sequence can be triggered at the start of the game to encourage the players to place bets, the next video in the sequence may then display statistics relevant to the game. The control means may run these videos automatically one after the other, or a dealer at a gaming station may have control over when certain videos start. If there is a problem and the playing of a game is halted for some reason, the dealer will preferably halt the normal video sequence and run a fill-in video of short duration.

In a further preferred embodiment, a video camera is provided, preferably located adjacent the display. The camera may have the associated table or players in its view such that the game or the players can be shown on the display, or at another location, under the control of the control means.

The provision of a video camera as described above can enhance the operation of security or surveillance procedures, and also allow the possibility of providing replays of the gaming action.

The display may comprise a first portion for displaying a video or graphic image and one or more further display portions suitable for simply displaying the result in the game at the gaming station or other information relevant to the game, such as, in the context of a blackjack game, the state of the dealer's hand.

The display may display winning numbers as well as advertisements for both internal and external products and services.

A video display portion may be switched between showing video footage and displaying some information such as gaming statistics from the station with which the display is associated and information from another gaming station which may be located within the same casino or at a different casino.

Between coups (i.e. hands, spins) the display may be used to "flash up" advertisements for both internal and external products and services. For example, between coups, the casino operator can advertise corporate events, coming attractions, player loyalty programs, local sporting events, or show advertisements for external companies. Subliminal messages may also be displayed (when appropriate).

Using the invention, a casino has the opportunity to market and transform the live table gaming area into a player attraction zone.

At least part of the display may be specifically shaped to relate to the game information it is designed to convey. For example, to illustrate roulette scores, a portion of the display may be a circular display.

It is preferred that the display, or at least a portion thereof is a visual display unit provided either as a liquid crystal display, a plasma display or a low temperature poly-silicone 180,000 pixel screen (which can be seen in direct sunlight), although it is also within the scope of the invention to provide a more conventional CRT display. It will be appreciated that the use of such video quality displays permits the controller a wide choice of colours in the display which brings a considerable improvement over prior art l.e.d. displays of the type mentioned above.

The display may also be provided with emergency lighting means which are operative in the event of a power cut. These may comprises an

emergency light which comes on in the event of a power cut or, the emergency light may also be on when the power is on. The emergency light may be configured to switch itself off after a predetermined period of time.

The display may also be provided with air circulation means, for example, a fan or an air pipe which is attached to the display means. Casinos generally allow smoking, the air circulation means allow fresh air to be circulated. Preferably, the air circulation means is positioned on the display means so that the air above the heads of the players is circulated.

Also, the display means may be provided with electrical discharge means for purifying the air around the display means.

The display is preferably substantially vertical and so easily observable by all players at the gaming station. As mentioned above, in some cases, it may be preferable to provide a large display which is associated with two or more gaming stations. Such a display may be supported on a stand or it may be suspended from a ceiling or a pillar, wall etc.

Also, the display may be provided within the gaming station itself. For example, horizontal displays forming part of a gaming table may be used.

The present invention is particularly useful with live gaming tables. However, as mentioned above the present invention may also be used with so-called slot machines or amusement with prizes (AWP) machines. A slot machine is generally considered to be a casino type machine which complies with International Gaming Standards, e.g. in quality of manufacture, that is compatible with on-line data retrieval systems and with no limit on stake and award. These machines may also be connected to progressive jackpot

gaming systems. An AWP machine or Low Payout Machine is more generally used for street and rout operation within areas which have a limit on maximum stake and maximum award.

Slot and AWP machines are generally not under continuous supervision. However, it will be appreciated that a display means may be provided with a slot or AWP machine to display video sequences as described for table games to entice players to bet and to display promotional and marketing material. Also, the display can display previous statistics of the slot or AWP machine. The slot or AWP machine may be provided with a loudspeaker, or headphones and more preferably with a wireless headset to allow the player to hear an accompanying soundtrack to the display.

The display means associated with a slot or AWP machine may also have a video camera for imaging part of the casino floor.

It should also be noted that slot and AWP machines differ from table games in that they inherently have a display which displays the winning combinations. Therefore, the display means for slot and AWP machines need not, in normal use, display the current result. However, the display means could be used to display the last few results from the machine or recent statistics.

Where the slot machine is of the type having a video display unit, as opposed to mechanical or electro-mechanical reels, the video display unit may be segmented to provide the game in one portion of the display, e.g. half of the display, with the display means according to the present invention occupying the remainder of the display unit. Thus only a single video display unit need be incorporated into the slot machine.

The display means is preferably controlled by an external controller.

As mentioned above, it is known that there may be a secondary game in progress in which the players playing at a table or slot/AWP machine may take part. Such secondary games may involve players from more than one gaming station.

A further aspect of the present invention provides an improved environment for such a secondary game which includes display means, for example of the type outlined above, a sensor for detecting when a player wishes to participate in the secondary game, and game control means responsive to said sensor and arranged to run said secondary game according to predetermined rules and to display on the display information relating to the outcome of the game. Such information may include the game result for the player(s), the identity of a winner, the prizes awarded in the secondary game, etc.

In a further aspect, the present invention provides a gaming assembly for use by a plurality of players, the assembly comprising:

- first gaming means for playing a first game and for permitting a player of the first game to place a bet on the outcome of the first game; and
- a secondary gaming means for playing a secondary game, the secondary gaming means comprising:

- secondary game input means for receiving a game entry input from a player of the first game; and

- game control means for determining whether a player of the second game is a winner according to at least one winner determining criterion, the or each said criterion being independent of the outcome of the first game.

The first gaming means may be a live table game or a plurality of live table games. The plurality of tables may be located in one casino or across more than one casino. The table game may be for blackjack, roulette, stud

poker etc. In addition to or instead of a table game, the first gaming means may also comprise slot and/or AWP machines.

The secondary gaming means may be optional in that the player need not participate in the secondary gaming means to participate in the first gaming means. Alternatively the secondary gaming means may be mandatory. Further the secondary gaming means may include a mandatory game as well as an optional game. The mandatory game may provide a different category of prizes from the optional game

Initially, the secondary game will be described with reference to live table games alone.

The secondary gaming means may include a plurality of game entry devices. These game entry devices may accept either a bet or any entry. The game entry device may detect a gaming chip, actual money (notes or coins) or even a card.

In accordance with another aspect of the invention, the game entry device comprises first indicator means for visually indicating that the device is ready to receive a game entry input from a player;

second indicator means for visually indicating that the player's game entry input has been accepted and for transmitting a signal to a host computer; and

winning indicator means connected to the host computer for visually indicating to the player when the player has won.

Where the secondary game is mandatory, the second indicator will sense the presence of the player's game entry and indicate that the player is now participating in the game. Another sensor may be employed to sense the player's wager for the first, primary game (e.g. Blackjack) whereupon

the signals from both sensors are processed to confirm that the player is participating in both the primary game and the secondary game.

Generally, a game entry device will be positioned proximate to each player position. The device can indicate that wager and entrance fees are now being received for the game. If a player wishes to take part, he can place his gaming chip, coin or card on the game entry device.

The device may be provided with a game entry input sensor means, sensing that a gaming chip, coin or card has been received. This sensor can then trigger the second indicator means to show that payment has been received. Alternatively, the device could also be manually switched to indicate that the gaming entry input has been made. Preferably, this manual switch will be operated by a dealer or game supervisor. The game entry may be linked to a player loyalty card (vide hereinafter). A card reader may be provided to read a card and activate a game entry device prior to placement of a chip, coin or a card such as a gaming or debit card which can be debited. Alternatively, the entry fee may be deducted from loyalty points awarded to the player.

Where the game entry device senses that a gaming chip or coin has been placed on or in the device, many different types of sensor mechanism can be used. For example, possible mechanisms include:

Mechanical sensors:

- providing the sensor with a toggle switch;
- a push button switch;
- a membrane switch; or
- a phono-jack switch.

Electrical sensors:

tribo electric sensors which detect static electricity generated by rubbing a polymer chip;

resistive sensors where a conductive (polymer) chip loads EMF terminals, the player's fingers may also form part of the resistive load;

capacitive sensors where a chip acts as a dielectric between two conductors;

piezoelectric sensors where the weight of a polymer chip induces an electric current;

a spring gauge or strain gauge where the weight of a chip or chips generates a corresponding electric signal;

or touch screens.

Alternatively, the sensor may be embodied as a charged coupled device such as a digital camera or the like disposed and adapted to obtain a digital image of the chip or token placed in the appropriate location. The captured image is compared by a processor to stored data for gaming tokens to determine authenticity as well as, if desired, denomination. For example, where the player need only place a wager of \$1 to participate in the secondary game, and the player places a \$5 chip on the sensor, the processor would be adapted to recognize the higher denomination of token and either indicate to the dealer that change is required or enter the player for multiple chances (i.e. 5 chances as opposed to a single chance for \$1) in the secondary game. The data base would be adapted to recognize various denominations of chips such as \$1, \$5, \$25 and the like.

Electromagnetic sensors:

optical coin sensors such as a photo-conductor where changes in the ambient light level cause a change of resistance in a photo-diode, the change in the light level being caused by the presence of a gaming chip or coin;

photo-voltaic sensors where ambient light generates an electric current which is again affected by the presence of the coin or chip;

opto-couplers where a UV light beam is broken by the presence of a coin or card;

a video camera;

a polarised light detector, such a detector would work with specially designed chips. These chips would have a circularly polarised light filter in the centre of the chip, when the chip is placed on the detector, ambient light shines through the chip and becomes circularly polarised. This light is then detected from below by a circularly polarised light detector. If no chip is present then the ambient light is not polarised and so the polarised light sensor is not activated;

Miscellaneous sensors:

thermo-electric sensors, where heat from the chip or the player's fingers generates thermo-electric current;

main hum detectors where a metallic insert in a polymer chip held by the player provides 50 or 60 Hz radiation;

inductive sensors where a metallic insert inside a polymer chip changes the properties of a coil e.g. frequency metal detection;

acoustic detectors where a polymer chip tapped by a player on a bet acceptor generates sufficient sound to generate an electric current;

ultrasonic detectors where a polymer chip interfaces with an ultrasonic coupler and an antenna;

magnetic sensors such as those which use the Hall effect may also be used.

The winning indicator on the game entry device indicates that a player has won. Preferably, the winning indicator can also indicate what prize, or what scale of prize, the player has won, for example, by illuminating more lights or by flashing the lights of the device.

A particularly convenient and compact design for the device is provided if the indicators are concentric rings around the payment receiving means.

The indicators are preferably optical indicators which either light up or turn off to indicate the status of the device.

An elegant arrangement is provided by three concentric rings, where the inner ring lights up to show that the device is ready to receive payment, the middle ring indicates when a payment has been received and the outer ring indicates that a player has won. A single ring in a plurality of segments could be used.

However, the device may also be provided with just two rings. These two rings could flash to indicate that a player has won. It should also be appreciated that four or more rings could also be provided.

When a coin, gaming chip, or other entry has been accepted as a bet or an entry fee, the game entry device communicates with a host computer to indicate that a player is taking part in the secondary game. Further, the second gaming means may include control means operatively coupled with the circuit means of each coin acceptor for detecting the signals from the circuit means and for allocating a pay-off according to at least one predetermined criterion to one or more of the players who have placed bets on the outcome of the second game. The, or each, said criterion is independent of the outcome of the first game.

The criteria, as hereinafter described, may be based upon an algorithm which takes into account the number of players participating, the minimum table limit for each table of a participating player, playing time for each player, a subjective dealer assessment for each player (such as

related to the player's average level of play), player personal information such as birthdays, anniversary or the like and the history of the player of winning secondary prize. Alternatively or additionally the algorithm may take into account the player's Theoretical Win Profile (TWP) typically maintained by the casinos player tracking system. TWP is known to those skilled in the art.

The game control means may accumulate one, or more, monetary jackpots from the game entry payments and allocate financial prizes from the jackpots. The control means may allocate a non-monetary prize, the value of which bears a predetermined relationship with the accumulated amount.

According to a further aspect of the present invention, there is provided a jackpot prize gaming assembly for use with live card games at a plurality of gaming locations, the system including

a gaming table at each location, each table having a plurality of playing positions for card players and a position for a card dealer;

a bet acceptor proximate each player position for permitting each player to place a bet for one, or more, jackpot pay-offs, the bet acceptor including a sensor for detecting the presence of a bet and circuit means for generating a signal in response to the sensing of the bet by the sensor; and

control means operatively coupled with the circuit means of each bet acceptor for accumulating at least one jack-pot from available pay-off money in response to receipt of the signals from the circuit means of the bet acceptors and for allocating to one or more of the players on the tables who have operated a bet acceptor, one or more prizes according to at least one pre-determined criterion, the, or each, criterion being independent of the outcome of the card game played on the tables.

The bet acceptors may be recessed into the table top, each bet acceptor being position proximate a player position. Preferably, each bet acceptor is positioned intermediate its associated player position and the dealer position of the card table. The bet acceptor may also be embodied as an elongate or arcuate video unit adapted to display at the player positions the discrete bet acceptors.

In yet a further aspect, the present invention provides a method of playing a secondary game, wherein said secondary game runs in parallel with a primary game on a gaming table, the secondary game having secondary game control means and display means; the method comprising the steps of:

- a) accessing of the secondary game by a plurality of players already participating in said primary game;
- b) detecting the presence of the said secondary game players by said secondary game control means;
- c) determining by said secondary game control means, whether or not there will be a winner of the secondary game; and
- d) if in step (c), the secondary game control means determines that there should be a winner, determining which of the plurality of players will be a winner and identifying the winner via the said display means,

wherein the steps (c) and (d) are not based on the outcome of the primary game.

The secondary game may be played with players from just one table. However, it is more preferable if the secondary game is played across more than one table, the tables being networked together. The network can also be extended to incorporate tables and players in more than one casino.

In any aspect of the invention, the control means may be linked, via the Internet or other communications link, to other similar control means at

other locations. This would enable some kinds of game to be played simultaneously in several casinos or even world-wide.

If a winner is chosen, the winner is conventionally awarded with a prize. Generally, a small prize is given in the form of gaming chips which the winner can use to play the secondary game or which can be used in the casino, in general.

Preferably, the secondary game control means determines whether or not sufficient funds are available to allow a player to win the secondary game. The prize fund for the secondary game preferably comes from the takings of the secondary game on its own, less a percentage to cover the house expenses. However, the prize fund could be subsidised with the takings from other games in the casino.

The step of determining the winner of the secondary game is separate from the step of determining the winner of the table game i.e. the primary game. Preferably, the step of determining the winner of the secondary game is based on random chance. However, the secondary game may also be used as a way of rewarding valued customers, for example by increasing the chance of winning for regular customers. Also in some states a purely random based award will constitute a lottery which may contravene gaming laws. Thus, some player dependent weighting factor may be included.

As stated above, the selection may be based upon an algorithm which selects winning player(s) not by random chance but instead based upon certain factors which may include whether the player has recently won a secondary prize and, for a period of time, exclude or discount his/her chances of winning a secondary prize.

This can be implemented if the casino runs a loyalty card scheme. Such schemes are well known. In such a scheme, a participant of the scheme is issued with an identity or loyalty card. Card points are awarded depending on how much the player wagers on the casino/gaming floor. The player can redeem loyalty points for a prize e.g. a T-shirt, watch, trip to a health spa.

The apparatus for the secondary game is preferably provided with a card reader to read the player information which is stored on the loyalty card or in a player tracking system database. The secondary game control means preferably determines the winner of the secondary game based on stored information of the individual players e.g. players with a large number of loyalty points, or with a number of points falling within a specified range, may be given an enhanced chance of winning the secondary game.

The secondary game control means may also update the information on the players loyalty card or the information which is maintained by the casino.

The loyalty card can have a magnetic strip, a bar code, a punched pattern, a computer chip or the like which is used to store the player information or identify the player's account maintained by the casino data processing unit.

The use of a loyalty card allows the casino to collect valuable marketing data. For example, the casino can tell how much an individual player spends in one evening, how often they frequent the casino and, also, which of the primary games have players which tend to use the secondary game.

Therefore, in yet a further aspect, the present invention provides a method for players to participate in a secondary game while having a primary game, the players having identity cards adapted to be read by a card reader to enable a computer to access a player database having stored therein data including data relating to the player's historical wagering activity, the method comprising:

- players making a wager to participate in a secondary game;
- reading the player's identity card;
- providing a secondary game controller;
- said secondary game controller accessing said database and retrieving data relating to the player's wagering activity;
- said secondary game controller assigning to each player based at least in part on said player's wagering activity a weighted chance of success in the secondary game;
- said secondary game controller selecting from the participating players a winner based on an algorithm which incorporates said weighted chance; and
- awarding a prize to the winner.

The secondary game need not be limited to players which have loyalty cards. Unless a loyalty club member is using secondary game credits awarded to him on his loyalty card, all players will normally pay an entrance fee to take part in the secondary game. (In some places, betting may be prevented by placing a gaming chip on a detector assembly). The entrance fee is preferably paid by placing a gaming chip in a detector.

Preferably, the participating players must have a loyalty card to participate in the secondary game. For players wishing to participate, dealers or casino staff may present the player with "Doe" loyalty cards which store and update the available player information maintained on the

card or in a "Doe" account established at the player tracking data base and identified by a control number stored on the Doe card.

As mentioned, the display means for the secondary game is preferably of the type outlined above in connection with the first aspect of the invention for displaying graphic or video images, but the display may simply comprise indicators associated with the sensors, appropriate ones of which light up to designate winning players. These sensors can also indicate how much a player has won by either partially or fully lighting up.

Such a secondary game is suitable for operation alongside many live table games, e.g. Blackjack, Stud, Poker or roulette, and the result is independent to the outcome of these live games. In the preferred embodiment, participation in the secondary game is optional for the players of the primary games. Secondary game participation may be compulsory or the secondary game may have a compulsory element as well as an optional component.

The secondary game can run with a number of live gaming tables. Preferably, the secondary game is timed so that it does not interfere with the game being played on the live gaming tables. To achieve this, the secondary game preferably samples all tables continuously at predetermined intervals of time, for example a few milliseconds apart. When it is detected that a sufficient number of players have entered the secondary game, a winner or winners are chosen. The cycle to detect a winner can then begin again. To maintain suspense, if a player's primary game has just started, the control means of the secondary game will delay announcing the results until near the end of the primary game. For example, if the primary game is roulette, a winner of the secondary game at that table will not be announced until the wheel has started to slow down. A small prize may be awarded at each game on a table or in each secondary

game cycle in a casino. A larger jackpot will be awarded less frequently, depending on the number of players taking part in the game.

The display means of the first aspect of the present invention are preferably used to give information about the secondary game. For example, it can promote participation in the secondary game, display prizes, and can identify and display the winner of a larger jackpot.

It has previously been mentioned that the secondary game may also be applied to slot or AWP machines. An AWP machine or slot machine differs from a live gaming table in many ways. For example, there is usually just one player per machine as opposed to a live game which typically has between 1 and 12 players. Also, there is no dealer and the payment for a slot or AWP machine is collected automatically. In the slot or AWP machines, the player can indicate that he wishes to enter the secondary game by placing his bet or entry fee in a second slot provided in the slot machine or placing his bet or entry fee in the main slot of the main slot of the slot machine and pressing a button or other means which indicates that he wishes to enter the secondary game.

Otherwise, the use of slot or AWP machines in the secondary game can be similar to that of live gaming tables. Information concerning the secondary game can be displayed on display means which are provided with the slot or AWP machines.

The multimedia apparatus described above is particularly advantageous for the operation of a secondary game as it enables promotion of the secondary game to players in the casino and display of video sequences etc. related to the prizes to be won, as well as displays related to the identity of the winner or the winner's position and possibly a live video display of the winner or the table at which the winner is playing.

The provision of apparatus according to this invention opens up many possibilities for the operation of the gaming tables within a casino.

In its fullest implementation, the system is a full multimedia presentation enabling the display of pictures or video footage at the gaming tables or anywhere on the casino gaming floor, for example from CD-ROM, DVD or minidisc type devices, which the dealer may provide voice over, possibly from a wireless headset, at appropriate times. Thus the dealer may encourage participation in both the primary game and in the secondary game.

Further, the display means may be advantageously used for marketing purposes for the casino operator, for internal and external services, products and advertising and for running player loyalty programs, training programs for staff and information relating to service or maintenance.

It will be appreciated by a person skilled in the art that, although, the game entry device has been described with reference to the secondary game, it may also be used with a primary game or even as a means to place a side bet on a game where the outcome is linked to a primary game.

The present invention will now be described with reference to the following preferred non-limiting embodiments in which:

Figure 1 is a schematic illustration of the display of the first aspect of the present invention associated with a roulette table;

Figure 2 is a template showing a typical display sequence which may be used for roulette;

Figures 3a and 3b are a schematic illustration of the system according to a first aspect particularly for use with a blackjack table;

Figure 4 is a template showing a video sequence which can be displayed on the display of Figure 3 to accompany Blackjack;

Figure 5 is a schematic illustration of a preferred embodiment of the invention;

Figure 6 is a schematic illustration of another embodiment of the present invention;

Figure 7 is a flow diagram showing operation of a secondary game with the arrangement Figure 6;

Figure 8 shows a schematic of four gaming tables playing secondary and primary games;

Figures 9, 10 and 11 illustrate preferred forms of display; and

Figure 12 shows a bet acceptor in accordance with the present invention which can be used at a live gaming table or incorporated into a touch screen for a slot machine;

Figure 13 shows another embodiment of a Blackjack Table having an arcuate display with discrete bet accepting locations; and

Figure 14 illustrates the a graph of the number of players versus the participation level as determined by the system.

Figure 1 shows a roulette table 1 connected to a display 3 via a controller 5.

The roulette table 1 has a roulette wheel 7 and a betting area 9. The roulette wheel 7 is monitored by a sensor 11 which feeds information back to the controller 5. Such sensors are well known in the art.

The display 30 will display information which complements the live roulette game taking place on table 1. The display may be a cathode ray tube display, but a high quality liquid crystal display or a plasma display is preferred. The display is positioned and dimensioned to be easily read by players at the table 1.

A typical video sequence to be shown on display 3 will be described with reference to Figure 2. A game sequence starts with the display 30 showing an eight second piece of video footage (VIDEO 1) encouraging the players to place bets. This will then be followed by VIDEO 2 which displays statistics of the wheel. For example, it can show how many times in the evening a certain number has come up, or if a certain number has not yet come up this evening. These statistics can help the player choose which number they wish to bet on. Typically the sequence will be run for from 10 to 30 seconds. As video clip 2 finishes, the wheel is spun, and VIDEO 3 can show the live wheel spinning or it can just display a message saying "wheel spinning" or it can display video footage, for example, relating to a secondary game (vide hereinafter). Typically the roulette wheel starts to slow down at 20 seconds and display 30 shows VIDEO 4 which displays a message saying "no more bets". VIDEO 4 lasts for about eight seconds.

Then, display 3 can show the winning number, which is determined by the detector 11.

VIDEO 6 can be played when losing bets are collected and winning bets are paid out. During this time, VIDEO 6 can show promotional material about the casino itself or promotional material for local businesses etc.

There is also a further video clip, VIDEO 7 which is an emergency loop movie. This can be run at any time. For example, if there is a dispute concerning the result on the table, or the game stops for some other reason, the emergency loop movie can be displayed on the screen. Again, this movie can include promotional and marketing material. The display 30 may also display remarkable plays and payoffs from prior games to stimulate play.

There can be a continuous background audio soundtrack which accompanies all of the videos. Alternatively, one or more of the videos may have its own particular soundtrack. The background soundtrack can be overridden by the specific soundtrack of one or more of the videos.

With an experienced dealer or croupier a roulette coup will last a reasonably fixed amount of time and so the video sequence may run automatically. However it is preferable if the dealer is given some control over the display device 3. Two control buttons 15, 17 linked to the controller 5 are provided on the table for this purpose.

The button 15 is a dealer start button which starts the place your bets VIDEO 1. The button 17 may be needed for some configurations of the system. Depressing the button 17 causes a "no more bets" message to be displayed when the roulette wheel 7 has slowed down sufficiently. However, it should be noted that in the preferred form, this button 17 will

be redundant for displaying "no more bets" will be automatically triggered after a certain time has elapsed or by a device which senses automatically the wheel speed as is known in the art.

The buttons 15, 17 can be pressed together to start the ELM (emergency loop movie) movie. Another video sequence may also be called up by the dealer pressing the buttons 15, 17 simultaneously twice. This could be a prolonged video sequence which the dealer can start running if there is a prolonged interruption on the table. A third button could be provided to trigger the start of the promotional video, VIDEO 6.

A variety of videos may be provided in each slot 1 to 6, and a sequence can be built up by selecting different videos in each slot. Each individual video has its own identifier code and the controller is programmed by entering the codes in sequence. The controller can be quickly re-programmed by the dealer or a game supervisor if required. The videos are carried on a CD ROM or DVD type device for rapid access during play. The images of VIDEO 2, for example, can be updated automatically by the system to reflect the most recent outcome.

Figure 3 shows the casino utility device for complementing a Blackjack table. As for the roulette table of Figure 1, a display 25 is associated with the table 21 and controlled by a controller 19.

A typical display sequence is shown in Figure 4. Video A runs for 1-2 minutes while a new shoe is being shuffled. During this time, the display displays material which entices the potential players to place bets. Video B runs for 8 seconds while bets are being placed. The first two cards are dealt when video C is playing. Video C takes about 10 seconds. This video will typically show Blackjack statistics such as the last 20 dealer hands to aid the players with their playing strategies. The next video clip, video D, will

typically show corporate and promotional clips and will run when additional cards are being issued. In video clip E which follows video clip D, the dealer hand is shown while the winning bets are being paid out. The dealer's hand will be entered into the controller by the dealer or via a card reader, to be displayed on the display screen 25.

As with the roulette table (Figures 1 and 2) an emergency loop movie, video F, can be run at any time. The dealer control over the display sequences is again via a control buttons 15, 17. The dealer depresses button 15 to display "place your bets". When a new shoe shuffle is required, the dealer will press the button 15 twice. A button 17 is provided for "re-dealing" the cards if necessary. During a re-deal operation or a new shoe shuffle, the display will show corporate and promotions clips. The buttons being pressed simultaneously brings in the emergency loop movie, video F. The buttons 15, 17 being pressed twice simultaneously pauses for a long interruption and a second video sequence G can be displayed.

Figure 3b shows a control panel 40 incorporating control buttons 41 for the dealer to input the dealers hand, as well as buttons 42 to 45 for other control functions.

In broad terms, this invention includes a visual display unit provided in conjunction with a live casino gaming table on which is displayed game information or other information relevant to the players at the table. Such information may include video sequences relating to available prizes or multimedia information relating to a secondary game in which the players at the live table game can also participate.

Figure 5 is a schematic illustration of an arrangement according to the preferred embodiment of the invention. This illustrated embodiment comprises two live gaming tables illustrated schematically at 110 and

although these are illustrated as Roulette tables it is to be understood that the invention is equally applicable for use with gaming tables for other casino games, such as Blackjack, and may be applied to one, two or more tables relating to different games. This embodiment incorporates the display means, bet acceptors and side game aspects of this invention.

In the illustrated embodiment, each Roulette table 110 is provided with Roulette wheel 112 having associated therewith sensor 114. Sensor 114 is a sensor of any known type arranged to determine the final resting place of the ball and hence the winning numbers.

Associated with the tables is video control means 120. This means is responsive to the outputs from sensors 114 to display, on the respective visual display units 130, the current number relating to the respective table 110.

In relation to tables for other live games the display is arranged to display game information relating to the relevant game and other appropriate sensors are provided to sense the progress of the game. For instance, the display for a Blackjack table may indicate the result of a dealer's hand, e.g. "Bust", or "BJ".

Visual display units 130 are in the preferred embodiment LCD or plasma displays capable of displaying a wide choice of colours, enabling appropriate and consistent colours to be used to illustrate the table scores and also enabling the display of video sequences to the players at the tables 110.

In the preferred embodiment, the apparatus is further adapted to permit the players at the tables 110 to participate in a secondary game, for instance of the progressive type, or to award player participation awards.

To this end, there are provided at a plurality of player positions at tables 110, bet acceptors 116 or other appropriate sensors or switches to enable the players to participate in the secondary game. The number of sensors will depend on the number of players for which the table is designed. A roulette table typically has eight or more bet acceptors 116. Blackjack tables typically have seven.

The secondary game bet acceptor is preferably a 'bull's eye' type bet sensor (as described with reference to figure 12). This is a tri-colour concentric ring device which acts as both a bet sensor and a display unit. When the system is ready to receive a bet, the ring 603 is illuminated. When the player places his bet on the sensor, the ring 605 is illuminated. When the dealer collects the bet, the ring 605 remains illuminated.

If a player has won, the outer ring 607 is illuminated. The bull's eye device can also be used to indicate to a player how much they have won. For example, all the rings may flash for a large jackpot win.

These sensors 116 are connected to game control means 140 which run the secondary game in a known fashion. Game control means 140 is also associated with display control means 120 such that information pertaining to the progress and result of a secondary game may also be displayed, together with prize information, at visual display means 130. The two control means 120, 140 could be incorporated in a single control device.

The above described sensors (116) also provide display means for the secondary game.

The tables are also provided with loyalty card readers 122. Players who participate in the casino's loyalty scheme are provided with a loyalty

card. Loyalty points may be awarded for playing both the primary game and the secondary game. A player who is a member of the loyalty club places his loyalty card into a card reader 122.

The card reader 122 is a device with slots corresponding to each of the betting positions 116. The card reader is located at the table by the dealer. The player hands the card to the dealer and dealer locates it in the appropriate slot of the reader 122 corresponding to the player position.

Signals from the card reader 122 are fed to the controller 140. These signals are also sent to the casino player tracking system to access the player's account. Player tracking systems, as is known in the art, contain generally the following features: first, a player enlists with the casino providing information such as name, address, social security number, birth date or other individual information. The casino presents the player with a loyalty card having a unique identifying code and establishes a player account at a central data processor containing player information and accessible via the card's identifying code. During play, the player's card is read and the player's account is updated by assigning player points corresponding to the player's play. Based upon the accumulated points the player is entitled to certain complementary gifts, free meals, hotel rooms and the like. It is known to calculate, based upon the player's level of play, a Theoretical Win Profile (TWP) for each player. As the player games, the TWP is updated. The TWP is referred to to determine the level of complementary gifts which can be provided to the player. The TWP is based upon, for table games, average wager amount and time of play whereas for slot machine play it is based upon the amount played since the machine processor provides signals representing the amount of each bet.

Preferably, players can only participate in the secondary game if they have a loyalty card. Where a loyalty card is required, the dealer may be

provided with an inventory of "Doe" loyalty cards. These cards are each encoded with a unique identifier such as a number. When a Doe card is read by the reader 122 a corresponding temporary Doe account is established at the player tracking system and the player is entitled to participate and various factors as hereinafter described are assigned to that unique card or the account associated with that card.

The controller 140 determines whether or not a bet is detected and if a card is located in the card reader slot. If no card is detected then the controller does not allow the player without the card to play the secondary game. In one alternative, the controller 140 may allow a player without a loyalty card to participate and award a nominal number of loyalty points or default level to the player if they are required for the purposes of the secondary game algorithm.

Figure 6 shows a schematic view of a jackpot pay-off gaming system for use with live card games at a plurality of gaming locations. In Figure 6, reference numeral 210 generally indicates a jackpot pay-off gaming system in use with live card games at a plurality of gaming locations, in accordance with the invention. In Figure 6, the system 210 is illustrated in use at casinos 212 and 214, which are geographically separated. Each casino 212 and 214 has two blackjack card tables 216, it will be appreciated that the system 210 may include more than four tables 216, and that the tables 216 may be located at more than two casino locations 212 and 214. Instead, a plurality of tables 216 may be located at a single casino location, such as casino 212.

Each card table 216 has six or seven playing positions 218 for card players and a position 220 for a card dealer. A bet acceptor 222 is positioned proximate each player position 18 and is operable by a player at that position 218 for permitting the player to place a bet for a second or side

game, in this case a jackpot pay-off game. Each bet acceptor 222 includes a sensor (not shown) for detecting the presence of a bet (made with a chip or coin), and an electronic circuit (not shown) for generating a signal in response to the sensing of the chip by the sensor.

The bet acceptors 222 are received in cut-outs or recesses(not shown) in the table top 230 on each card table 216, each bet acceptor 222 being positioned intermediate its associated player position 218 and the dealer position 220 of the card table 216. Alternatively, as shown in Fig. 13, the bet acceptors 222 may be incorporated as part of an elongated display 300 adapted to display discrete locations 302 for accepting bets

Each bet acceptor 222 includes a disk 232 positionable above the cut-out in the table top 230 to cover the cut-out, the disk 232 defining a support surface 234 on which a chip is placed, in use. Further, the bet acceptor 222 includes a sensor (not shown) mounted below the disk 232. In this particular example the sensor has a tuned electrical circuit for sensing the presence of a metallic insert in a chip placed on the disk 232.

A central computer 224 is operatively coupled with the electronic circuit of each bet acceptor 222 via telephone lines 226 and electronic data communication devices 228. Each data communication device 228 includes a computer modem (not shown). It will be appreciated that the telephone lines 226 may be replaced by optical fibre lines or other communication link. The central computer 224 is programmed to calculate an accumulated jackpot of available pay-off money in response to receipt of signals from the electronic circuit of the bet acceptors 222 and to allocate a pay-off according to two predetermined criteria, which are independent of the outcome of the card game played on the tables 216, to players on the tables 216 who have operated a coin acceptor 222. The central computer 224 is programmed to accumulate 97% (or some other percentage which provides a reasonable

amount - i.e. the balance - for the house) of each bet placed and to divide the resulting accumulated amount into two categories thereby to provide a main jackpot, which is a so called "primary or mystery prize" and a "secondary prize". The mystery prize pay-off is allocated according to the criterion of whether a player's bet, when added to the then existing accumulated mystery jackpot total, causes the total to equal or exceed a randomly selected triggering value. The central computer 224 is programmed to randomly select a value intermediate between preselected minimum and maximum values.

The randomly selected value is secret from participating players on the card tables 216. When the accumulated jackpot amount is equal to, or exceeds, the randomly selected value, the jackpot is won and the jackpot pay-off allocated. The jackpot pay-off is allocated to the player whose bet caused the accumulated mystery jackpot amount to equal or exceed the randomly selected jackpot value, the value of the accumulated mystery jackpot before placing of the winning bet being less than the randomly selected value. The secondary jackpot pay-off is allocated according to the criterion of allocating a pay-off to the players at the same table as the player who wins the main mystery jackpot and whose acceptors 222 are operative at the time that the main jackpot is won. The central computer 224 is situated off site from the casinos 212 and 214. It will be appreciated that the central computer 224 may be situated on site at one of the casinos 212 or 214. The triggering value could be dependent on the amount of stake money accumulated or it could depend on the number of bets made, for example.

Each bet acceptor 222 has a first signalling means for signalling that the sensor is in a condition to accept a coin, and a second signalling means for signalling that a coin has been sensed by the sensor. Further, each bet acceptor 222 has a third signalling means (not shown) for signalling that the player who operated that bet acceptor 222 has won a jackpot pay-off.

The third signalling means is operatively connected to the central computer 224. The first, second and third signalling means are in the form of coloured lights, each of which illuminates a separate portion of the disk 232 of the acceptor 222. A bulls eye arrangement as seen in Figure 12 may be used, or, for example, three lights positioned side-by-side may be used.

The bet acceptor is preferably recessed into the table to provide a generally flat playing surface. It may be positioned under the table covering, and the covering illuminated from below to outline the bet acceptance area, for example. The system 210 further includes for each card table 216 a deactivating device (not shown) operable by the dealer. The deactivating device is connected to the electronic circuit of each bet acceptor 222 of the card table 216 and is operable to prevent the electronic circuit from generating a signal thereby to prevent late betting. The deactivating device is activated by the dealer by means of a switch 236 mounted on the table the top 230 of the card table 216, the switch 236 being connected to the bet acceptors 222 of the card table 216 via cables 238. At the commencement of a card game the dealer activates the switch 236 to prevent late betting. Once the card game is over, the dealer may reactivate the acceptors 222 of the next game by reversing the switch 236. The deactivating device is connected to the first signalling means of its associated acceptors 222 so that when the switch 236 is in its active position, the first signalling means is activated.

The system 210 includes display devices 240 in the vicinity each of the card tables 216 and operatively connected to the central computer 224, to display information relating to the jackpot component of the system 210 to participating players. The display devices has two display registers 242 and 244. The register 242 displays the accumulated bet amount, while the register 244 displays the amount of the pay-off on the secondary jackpot.

The display device may also incorporate a display of the type described with reference to Figs. 1 through 5, to show promotional video and other high resolution graphics materials such as described in particular with reference to Figure 4.

Figure 7 shows a flow chart illustrating the operation of an embodiment of the system using a mystery jackpot, as described above. A randomly selected secret jackpot number "N" is generated by an appropriately certified algorithm, for example available from the Nevada State Gaming Board. The central computer 224 interrogates each bet acceptor 222 in turn and accumulates the value of the coins or chips bet in an accumulated total register "A". The arrow labelled "P" indicates input signals received from the acceptor 222, each signal indicating that chip of value P has been accepted by the acceptor 222 from which the signal is received. A bet acceptor may be configured to detect chips of different value, or the total value of multiple chips. When the value A exceeds N, the mystery jackpot is awarded to the last interrogated bet acceptor 222.

A further operation of the secondary game will now be described in a simplified example which uses four roulette tables as shown in Figure 8. Tables 1 to 4 each have a dealer and are configured generally as seen in Figure 5. A roulette game will be played continually on each of the four tables. The roulette games will not start at the same point in time. For the purposes of this example, we will assume that each roulette game takes 60 seconds for the wheel to spin. For the purposes of this example, we presume that the wheel on table 1 starts spinning at zero seconds, the wheel on table 2 starts spinning at 10 seconds, the wheel on table 3 starts spinning at 20 seconds and the wheel on table 4 starts spinning at 30 seconds.

The host computer of the secondary game will sample to see how many tables are playing every one second (for example). The dealer on each

roulette table will typically collect in the bets for the secondary game when the roulette wheel starts to spin. At zero seconds, only the players of the secondary game at table 1 are taking part. At 11 seconds, the host computer will sample the players from table 1 and table 2. At 21 seconds, the host computer finds that players of tables 1, 2, and 3 are all taking part. If this is a sufficient number of players for the algorithm to determine a winner, a winner will then be chosen. If the winner is on table 1, the winning player's bet acceptor will flash almost immediately. However, if the winner is on table 3, to create that air of suspense, the host computer will delay identifying the winner until the wheel on table 3 is close to stopping spinning. Also, the timing of the winner announcement can be carefully chosen so that the dealer can pay the winning of the secondary game without interfering with the operation of the primary game.

Players from table 4 who enter the secondary game will not be picked up on this particular secondary game and will have to wait until the next run of the secondary game which begins immediately the first game winner is determined, when the players in this game will most likely be counted with players from games 1 and 2 etc. It will be appreciated that when the game is run over a large number of tables in a large casino and over slot machines, then many players will take part in each game. The winner is identified or announced at a time that it is easy for the dealer to pay out for the secondary game without interfering with the playing of the primary game. With sufficiently large number of players participating, the game algorithm can be configured to ensure frequent pay-outs of small amounts at each participating table or casino to maintain player interest. Display devices can be used to ensure that a pay out of a significant sum is effectively communicated to all participating tables.

Figure 9 is a schematic illustration of one form of visual display 330 suitable for use at a Roulette table. Typically, this embodiment may stand

one metre high and would be provided on or at the side of gaming table 110 (Figure 5). The display is mounted by way of base 332 and comprises a tubular framework 333 on which the display elements are mounted. In particular, there is provided a double sided number display 334 which has a circular configuration appropriate for the displaying of winning Roulette numbers, value chips and their denominations, and also a rectangular LCD display element 336, on which other game information or advertising or prize information or information relating to a secondary game may be displayed under the control of visual display control means 320. The necessary connections to the display elements in visual display means 330 are provided by way of wiring running within tubular framework 333. Preferably the number display can display a wide range of colours and backgrounds enabling appropriate colours to be used to display the scores. Also, the display element 336, need not necessarily be an LCD display but may be provided by any other suitable technology providing for high quality video or colour graphics display. The display includes a support 338 for a video camera, whose function is described with reference to Figure 10, or another add-on feature.

Figure 10 is a schematic illustration of an alternative form of visual display means 430. Once again, this is a display particularly suitable for use at a Roulette table. The structure of this display comprises a support column 432 formed integrally with a ring support 433. The ring support 433 provides support for the display element 336 which is a generally rectangular video display as described above in relation to Figure 9. Additionally provided in this embodiment are further display portions 434, 435. Display portion 434 is a vertical display element suitable for displaying for instance the list of recent winning numbers and is preferably formed of a dot matrix type display which may be activated to produce a wide range of colours.

A display portion 435 is provided at the top of the display means 430 to provide a prominent display of, for example, the last winning number, and once again, this may be a dot matrix type display element. Alternatively it could display the winning number of a different wheel, or a randomly generated number. For this latter example, if the winning number of the local wheel and the number of the different wheel or random number are the same, then an enhanced pay off may be given.

Additionally, in this embodiment, there is provided video camera 436 which is arranged to have in its field a view of the table at which the display means 430 is positioned and also possibly the players at that table. As described above, this facilitates the display of information at display element 336 and at other locations around the casino to encourage and facilitate player participation. Additionally, there may be provided together with video camera 436 a microphone to enable the reproduction of ambient sounds or to enable communication by the players or the dealer to other locations.

Figure 11 illustrates a further alternative embodiment of the visual display 530. This is an overall smaller display particularly suitable for use at card game tables, for instance Blackjack tables. Once again, the device comprises a video display element 336 and video camera/microphone 436. The elements are supported on a smaller display column 532 which once again incorporates a secondary multicoloured high resolution display element 534 suitable for the display of information pertaining to the game in progress at the table.

Figure 12 shows a game entry device of the bulls eye configuration. The device has a central bet receiving area 601 which is surrounded by three concentric circular indicators 603, 605, 607. The three concentric indicators 603, 605, 607 are formed of translucent plastic and lights are

positioned underneath the plastic so that the indicators can light up or switch off as required.

To indicate that the device is ready to receive a bet, entrance fee or the like, indicator 603 is lit.

A gaming chip is placed on the receiving means 601. The act of placing a gaming chip here causes indicator 605 to light. Indicator 605 either lights because a supervisor threw a manual switch or, the device may be provided with a sensor which senses when a gaming chip is placed on the receiving means 601 and that other criteria (such as the entry of a player loyalty card) have been met.

The game supervisor will then collect in the payments placed on the payment receiving means. The second indicator 605 will remain lit to show which players are playing the game. If a player is successful, the indicator will light the winning indicator ring 607.

Further information may also be given about the prize by lighting either the first and second indicators with indicator ring 607 or by flashing one or more of the indicators 603, 605, 607.

There are many ways of determining the winner of the secondary game and the amount to be allocated to a winner. As mentioned, a proportion each bet can be allocated to the house, to cover expenses, a proportion can be allocated to a small prizes pool, and a proportion to a major prize pool. The algorithm for selecting a small prizes winner can select winners frequently at random, or simply select a winner every time a small value N is reached (provided the system still appears sufficiently random to players to avoid reading of the system). A larger prize can be paid out when a large number N is reached, or at some time thereafter. The

algorithm used will depend on the number of tables and players since it is desirable to have several small winners at least in a casino each night, and perhaps a jackpot prize winner every few days if the amount of bets are sufficient. The algorithm may also be configured to give an increased probability of winning to players with medium or high loyalty point values, or based on other characteristics held by the loyalty card or casino database, such as date of birth, information on the type of game played by that player and the amounts wagered. Thus the algorithm may increase the likelihood of winning for a player with a particular profile.

With reference to Figure 14 the use of the algorithm to select the winner(s) of the secondary game prizes will now be described. For each player, based upon their loyalty card or Doe card, the game controller processor (or casino player tracking system) can recognize the player, the table being played by the player and its minimum required bet (e.g. a \$5 minimum Blackjack table) TM and the time the player has spent at the table TT. Further the dealer by a keypad at the table may be permitted to input a dealer assessment of level of play (e.g. the player consistently wagers greater than table minimum) DA. Still further the processor may incorporate a function related to player personal information PPI such as birthday, anniversary or the like. Based upon these factors, the processor determines a player worth PW for each player participating in the secondary game:

$$PW = TM \times TT \times DA \times PPI$$

Alternatively, PW may be determined as a function of $TM \times TT \times DA \times PPI$. With reference to Figure 14, the PW calculation results in a bell curve distribution with the ordinate being the number of players and the abscissa being PW. Based upon this distribution, standard deviations may be calculated to divide the participating players into a plurality of groups. In

group 350 resides the more valued players with groups 352, 354, 356 at lesser, descending values. As can be seen with the different curves, based upon the number of players and the various determined worths, the shapes of the distribution will vary.

The selection algorithm, once triggered by suitable means, selects a group of players from the defined groups from which the player will be identified to receive the primary prize for the bonus game. For example, the processor may weigh the higher valued groups 350, 352 higher than the lower valued groups to provide more frequent awards to valued customers. Based upon this weighting, the processor selects a group and from the group a single player. The player may be selected in order, e.g. the player with the highest worth in the group being first awarded the prize. This player may be excluded from winning the prize for a certain time period or for a certain number of award sessions. Thus when that group is selected again, the next highest worth player is awarded the prize. Certain factors such as birthdays move the player to a higher ranking in his/her group. The groups may be selected at random or in some order as desired.

While we have described certain embodiments of the present invention it is to be understood that it is subject to many modifications without departing from the scope of the appended claims.

CLAIMS:

1. A gaming station arrangement comprising a gaming station adapted for the playing of at least one game, a display associated with the station and visible to players of said game, and control means for controlling said display to display images.
2. A gaming station arrangement according to claim 1, wherein two or more displays are provided with a single gaming station.
3. A gaming station arrangement according to either of claims 1 or 2, wherein two or more gaming stations are associated with a single display.
4. A gaming station arrangement according any preceding claim, wherein the control means are adapted to display a result or other parameters of the game.
5. A gaming station arrangement according to claim 4 wherein the control means displays statistics of the game being played at the gaming station(s).
6. A gaming station arrangement according to any preceding claim, wherein the gaming station is a live table game.
7. A gaming station arrangement according to claim 6, wherein the control means is configured to display the result or other gaming parameters relating to a game being played at another gaming station.
8. A gaming station arrangement according to claim 6, wherein the control means displays on the display the result or other parameters of the game relating to the gaming table with which the display means is

associated and optionally the result or other parameters of a game at another gaming table.

9. A gaming station arrangement according to claim 6, 7 or 8, wherein the display is arranged vertically with respect to the gaming table.

10. A gaming station arrangement according to claim 6, 7 or 8, wherein the display are arranged substantially horizontally with respect to the gaming table.

11. A gaming station arrangement according to claim 10, wherein at least a portion of the display comprises a touch sensitive screen.

12. A gaming station arrangement according to any preceding claim, wherein the arrangement further comprises at least one loudspeaker arranged at the station in conjunction with the display and also a microphone for use by a game operator at the station.

13. A gaming station arrangement according to any preceding claim, further comprising a video camera.

14. A gaming station arrangement according to claim 13, wherein the video camera is provided adjacent the display, and has the associated station or players in its view such that the game or the players can be shown on the display, or at another location, under the control of the control means.

15. A gaming station arrangement according to claim 1, wherein the gaming station is a slot machine or an amusement with prizes machine.

16. A gaming station arrangement according to any preceding claim, wherein the control means includes means for displaying pre-recorded video sequences which may relate to prizes available to players, marketing information, promotional information, or the like.

17. A gaming station arrangement according to any preceding claim, wherein the display comprises a display portion suitable for displaying the result in the game at the station or other information relevant to the game.

18. A gaming station arrangement according to any preceding claim, wherein the display is provided with emergency lighting means, which are operative in the event of a power cut.

19. A gaming station arrangement according to any preceding claim, wherein the display is provided with air circulation means.

20. A gaming station arrangement according to any preceding claim, wherein the display is provided with electrical discharge means for purifying the atmosphere surrounding the display.

21. A gaming assembly for use by a plurality of players, the assembly comprising:

first gaming means for playing a first game and for permitting a player of the first game to place a bet on the outcome of the first game; and

a second gaming means for playing a second game, the second gaming means comprising :

second game input means for receiving a game entry input from a player of the first game to allow him to play the second game; and

winner determining means for determining whether a player of the second game is a winner according to at least one winner determining criterion, the criterion being independent of the outcome of the first game.

22. A gaming assembly according to claim 21, wherein the winner determining means determines the winner of the second game on a random basis.
23. A gaming assembly according to claim 21, wherein the winner determining means comprises a switching means which can switch between a plurality of winner determining criteria.
24. A gaming assembly according to claim 23, wherein at least one of the winner determining criteria is random.
25. A gaming assembly according to any of claims 21 to 24, wherein the first gaming means is a table game.
26. A gaming assembly according to any of claims 21 to 24, wherein the first gaming means is a slot machine or an amusement with prizes machine.
27. A gaming assembly according to any of claims 21 to 26, wherein the winner determining means further comprises means to determine if there are sufficient funds to award a prize, before determining a winner of the game.
28. A gaming assembly according to any of claims 21 to 27, wherein the second game input means comprises means for accepting a player identity card.
29. A gaming assembly according to claim 28, wherein the second gaming means further comprises means for updating the information on said identity card.

30. A gaming assembly according to either of claims 27 and 28, wherein the winner determining means uses a criterion which uses information read from said player identity card.

31. A method of operating a secondary game, wherein said secondary game runs in parallel with a primary game on a gaming table, the secondary game having secondary game control means and display means, the method comprising the steps of:

- a) accessing of the secondary game by a plurality of players already participating in said primary game;
- b) detecting the presence of the said secondary game players by said secondary game control means;
- c) determining by said secondary game control means, whether or not there will be a winner of the secondary game; and
- d) if in step (c), the secondary game control means determines that there should be a winner, determining which of the plurality of players will be a winner and identifying the winner via the said display means,

wherein the steps of (c) and (d) are not based on the outcome of the primary game.

32. A method of playing a game according to claim 31, wherein each player pays a fee to participate in the secondary game and the fees are accumulated to define an award fund and step (c) comprises determining whether or not sufficient funds have been accumulated to trigger the determination of a winner.

33. A method of playing a game according to claim 32, wherein step (d) is determined by random chance.

34. A method of playing a game according to any of claims 31 to 33, wherein at least one of said plurality of players has a machine readable

identity card which enables access to information about the player and step (a) comprises the step of entering said card into a secondary game card reader.

35. A method of playing a game according to claim 34, wherein the method further comprises the step of accessing the information on said player identity card by said secondary game control means, and step (d) utilises the information.

36. A method of playing a game according to either of claims 34 or 35, wherein the method further comprises the step determining a player worth based at least in part on the time a player has been playing and the level of the player's wagers.

37. A method of playing a game according to any of claims 31 to 36, wherein step (a) comprises the step of placing a gaming chip or coin on a detector.

38. A method of playing a game according to claim 37, when dependent on any one of claims 34 to 36, wherein step (b) comprises both detecting the presence of the identity card and detecting the presence of a chip on the detector.

39. A method of operating a game for players having identity cards, the cards being adapted to be read by a reader to access a player account having stored therein data including data relating to the player's historical wagering activity, to enable the players to participate in a secondary game while playing a primary game, comprising:

- enabling players to make a wager to participate in a secondary game;
- reading the player's identity card and accessing the player's account;
- providing a secondary game controller;

said secondary game controller accessing each said participating player's account and retrieving data relating to the player's wagering activity;

said secondary game controller assigning to each player based at least in part on said player's wagering activity a chance factor in the secondary game;

said secondary game controller selecting a winner from the participating players according to an algorithm which includes said chance factor; and

awarding a prize to the winner.

40. A gaming device comprising:

first indicator means for visually indicating that the device is ready to receive a game entry input from a player,

second indicator means for visually indicating that the player's game entry input has been accepted and for transmitting a signal to a host computer; and

winning indicator means connected to the host computer for visually indicating to the player when the player has won.

41. A device according to Claim 40, wherein the winning indicator means indicates what a player has won.

42. A device according to either of claims 40 or 41, wherein the device further comprises a game entry input sensor means for automatically sensing the game entry input from the player.

43. A device according to either of claims 40 or 41, wherein the second indicator means are manually activated.

44. A device according to claim 40, wherein the game input entry sensor means evaluates the game entry input from the player.
45. A device according to claim 42, wherein the game input entry sensor is configured to evaluate the value of a stack of chips.
46. A device according to any of claims 40 to 45, wherein the first, second and winning indicator means are arranged as concentric circles.
47. A device according to any of claims 40 to 46, comprising a touch sensitive screen.
48. A method of operating a live table game in a casino, the method comprising providing a display proximate the gaming table and displaying on said display graphic images for increasing player interest in the game.
49. A method as claimed in claim 46, wherein the graphic images include one or more of promotional images, corporate messaging and product endorsements.
50. A method as claimed in claim 46 or 47, wherein the graphic images include information relating to the outcome of the game at that table or at another location in the casino.
51. A gaming system comprising:
- a) game playing apparatus for a player to play a game,
 - b) display apparatus associated with the game playing apparatus and adapted to display video programs,
 - c) storage means for storing video programs to be displayed on said display apparatus,
 - d) control means for controlling the display of the video programs

on said display apparatus.

52. A system as claimed in claim 50, wherein said control means include manually operable switches to begin the display of a video program.

53. A system as claimed in claim 51 or 52, wherein said control means includes means for automatically displaying a sequence of video programs.

54. A system as claimed in any one of claims 51 to 53, wherein the length of a video program or sequence of programs is substantially equal to the length of a game or predetermined part of a game.

55. A system as claimed in any one of claims 51 to 54, wherein the video programs include one or more programs selected from

- a) a display of statistics relating to the game,
- b) a display of the game result,
- c) a display of promotional material,
- d) a display of an event in the game, such as "no more bets".

56. A system as claimed in any one of claims 51 to 55, wherein said game playing apparatus includes means for playing a primary game and a secondary game.

57. A system as claimed in claim 56, wherein the outcome of the secondary game is not dependent on the outcome of the primary game.

58. A system as claimed in claim 56 or 57, wherein the video programs include programs promoting the playing of the secondary game.

59. A system as claimed in any one of claims 56 to 57, including a bet acceptor for enabling a player to participate in the secondary game.

60. A system as claimed in claim 59, wherein said bet acceptor automatically detects a game entry in the secondary game by a player.
61. A system as claimed in claim 59 or 60, including a host computer which controls the secondary game, and wherein the bet acceptor signals the host computer.

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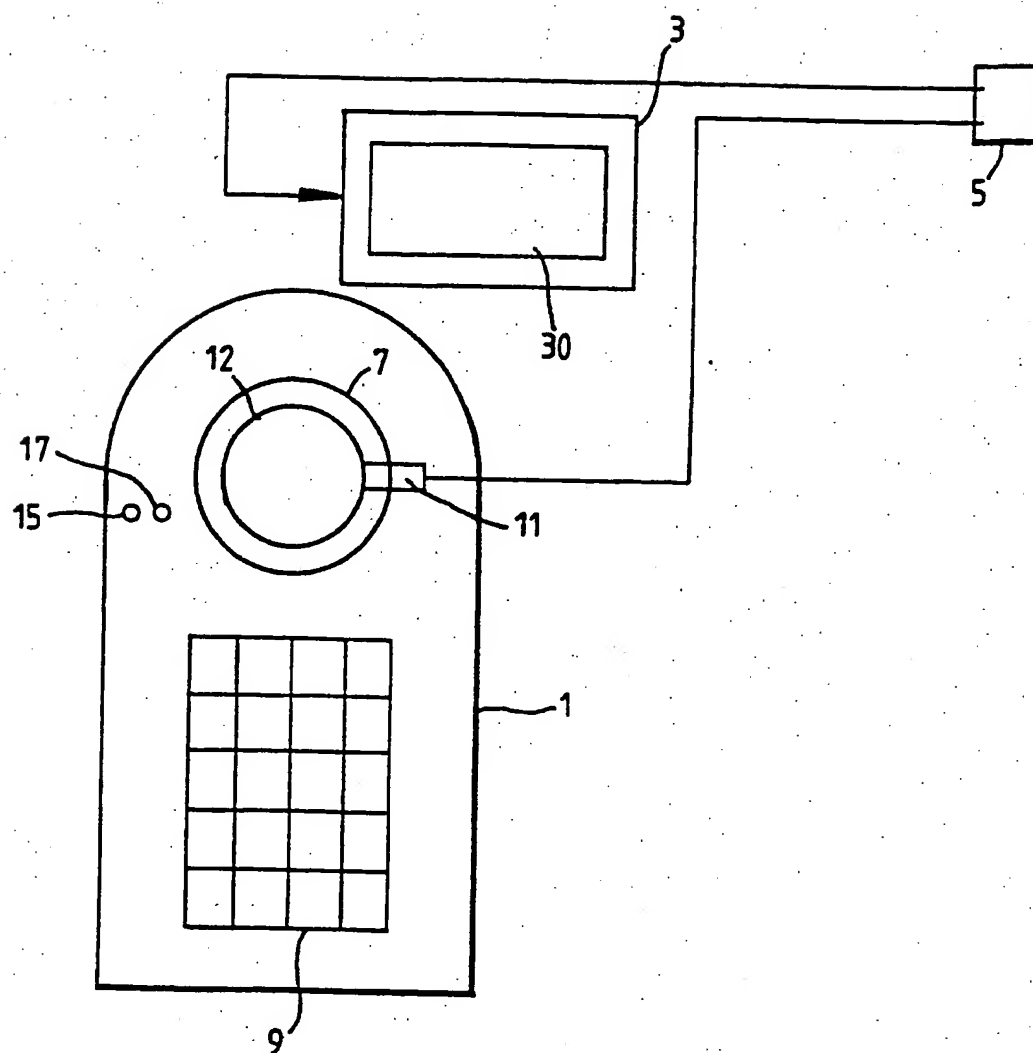


Fig. 1

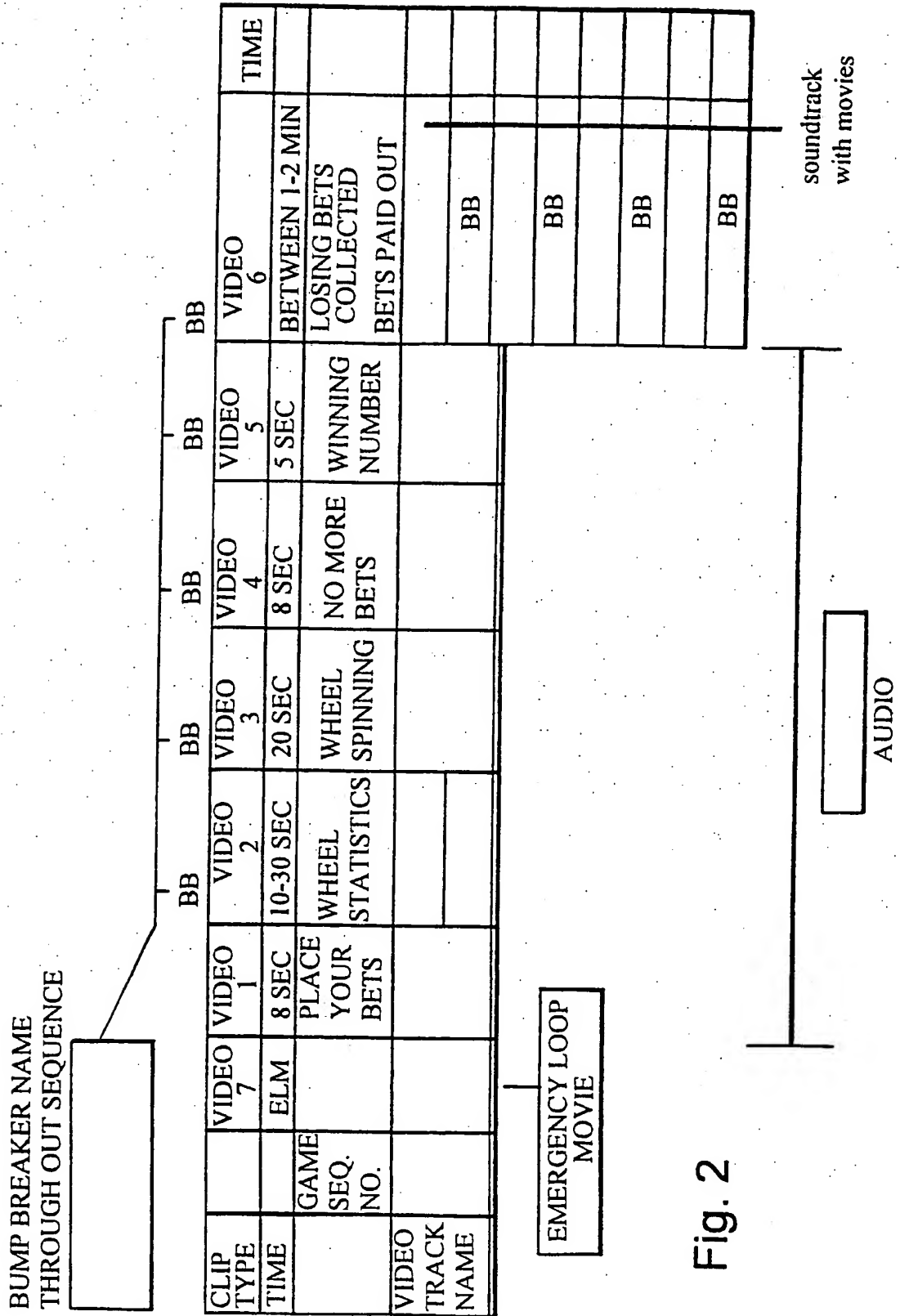


Fig. 2

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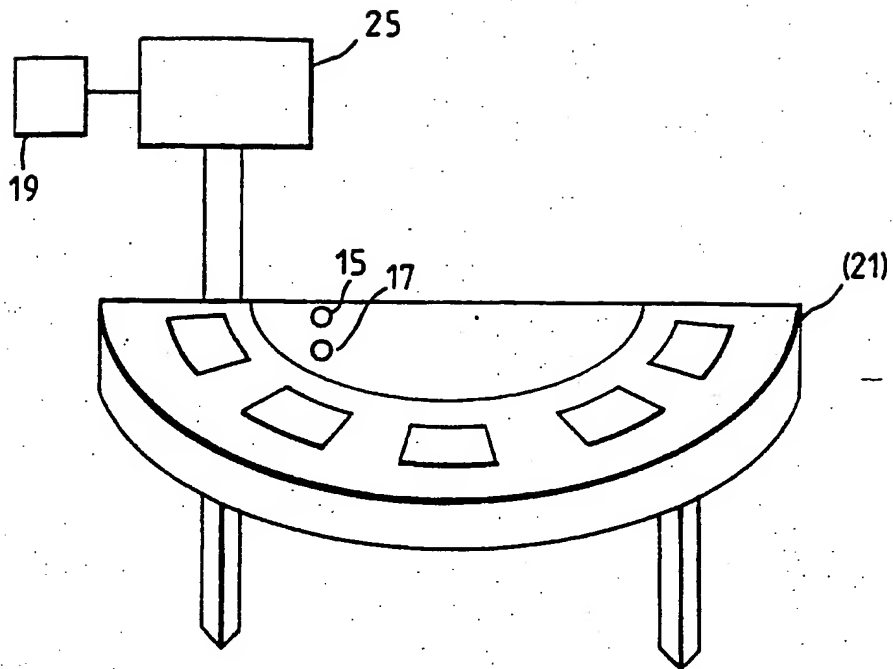


Fig. 3a

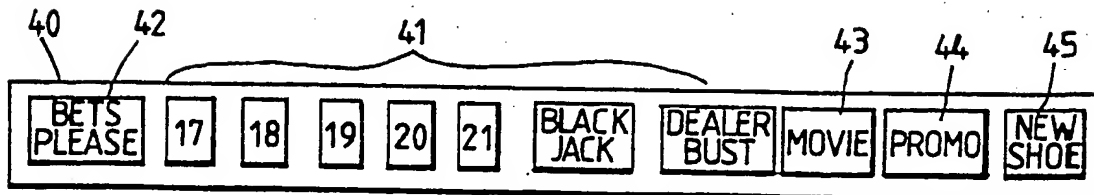
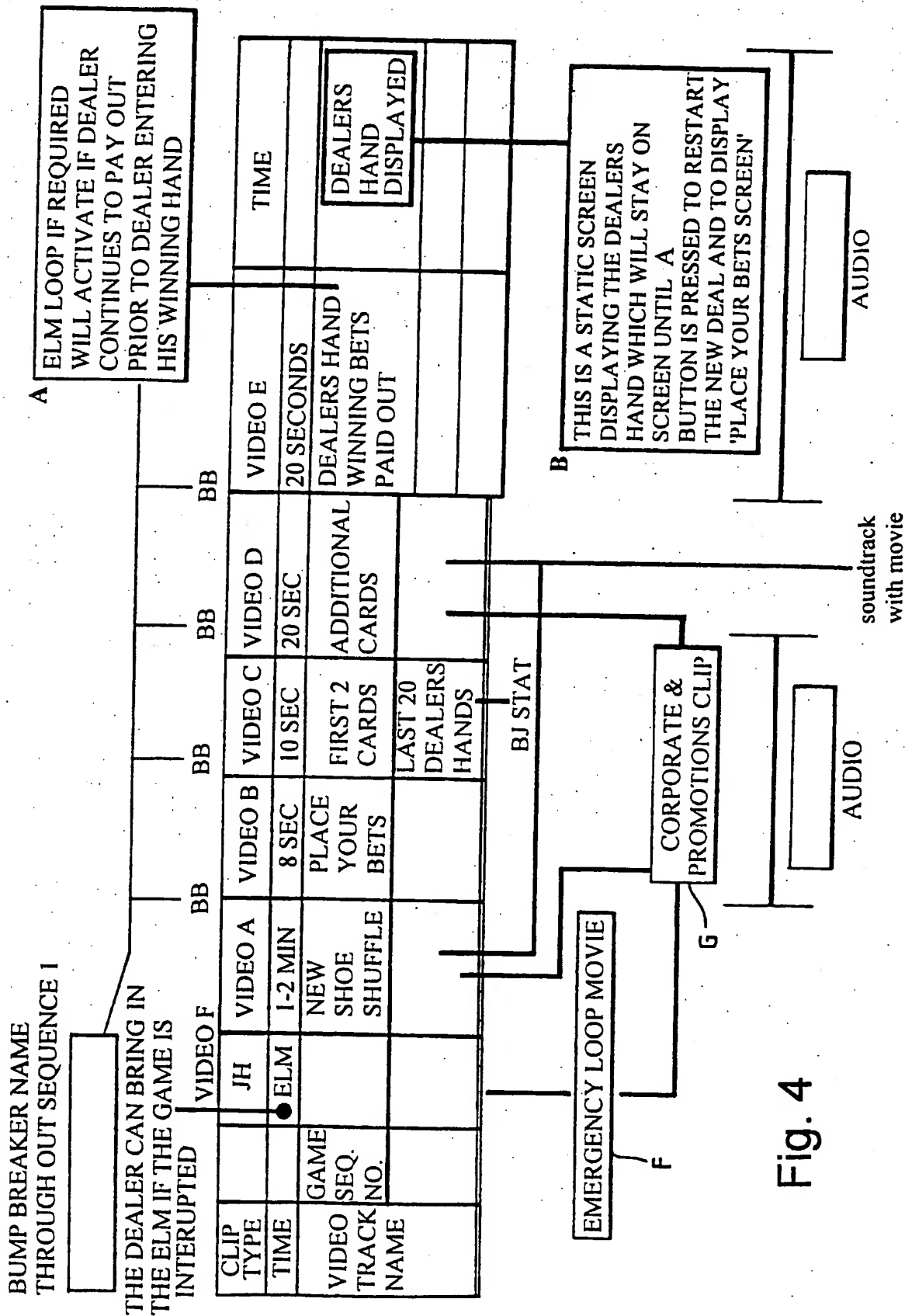


Fig. 3b



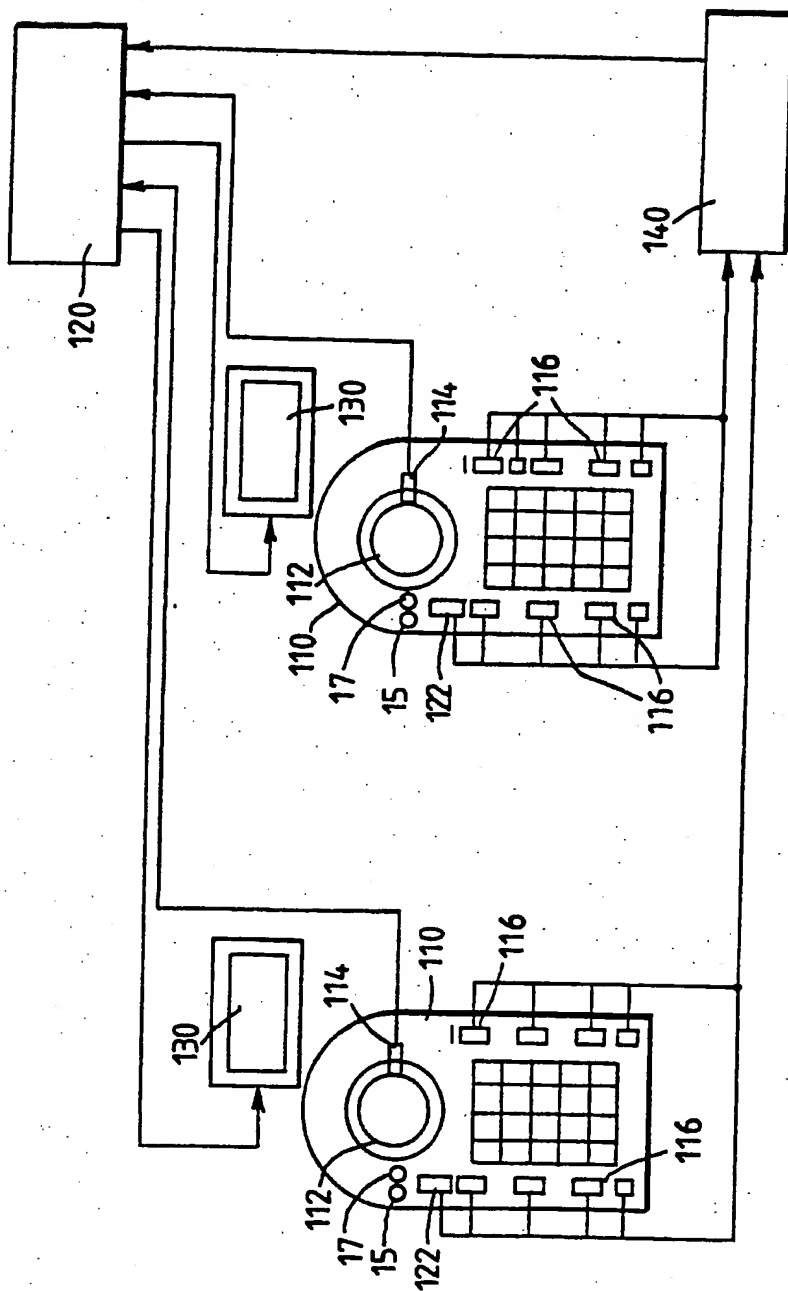


Fig. 5

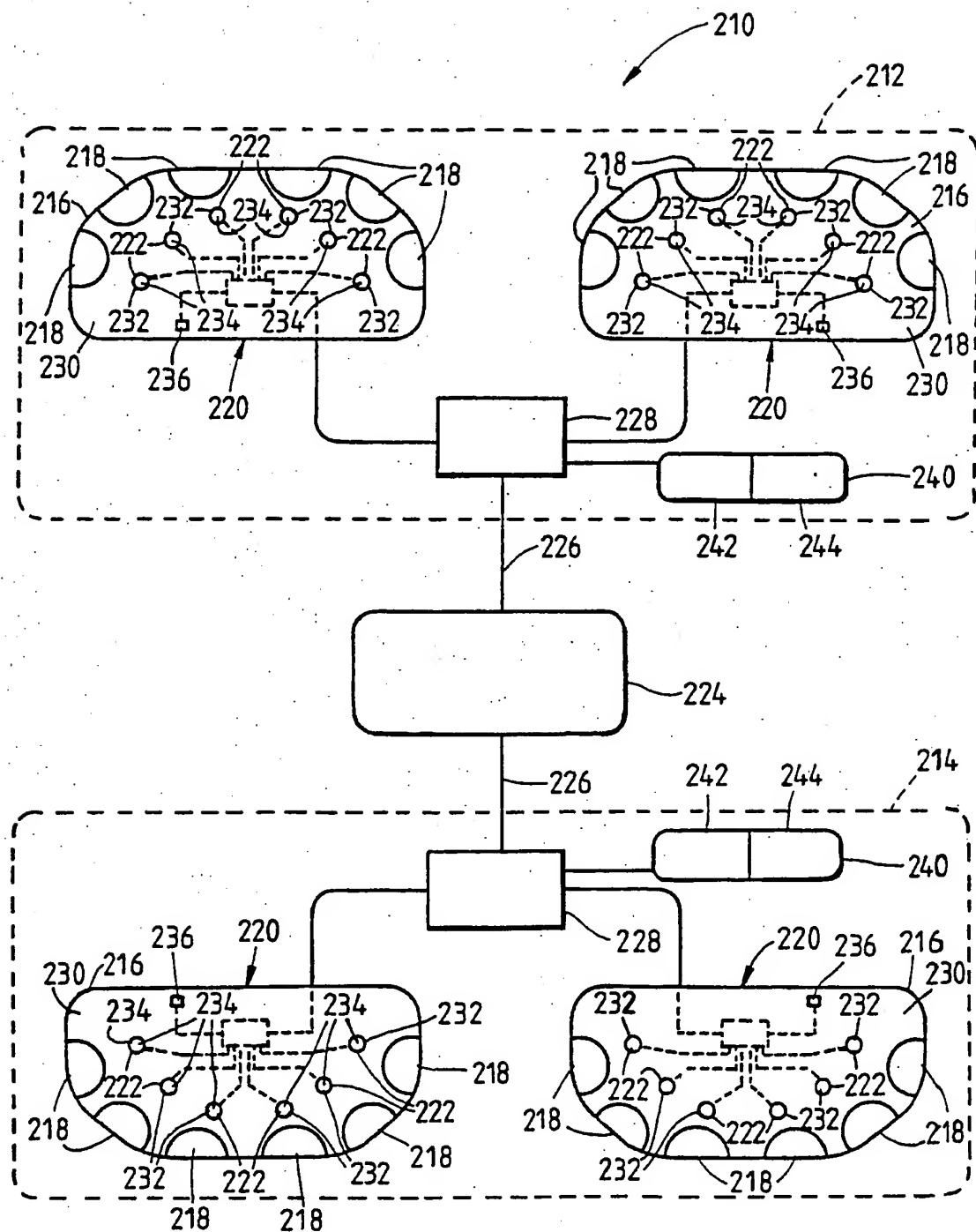


Fig. 6

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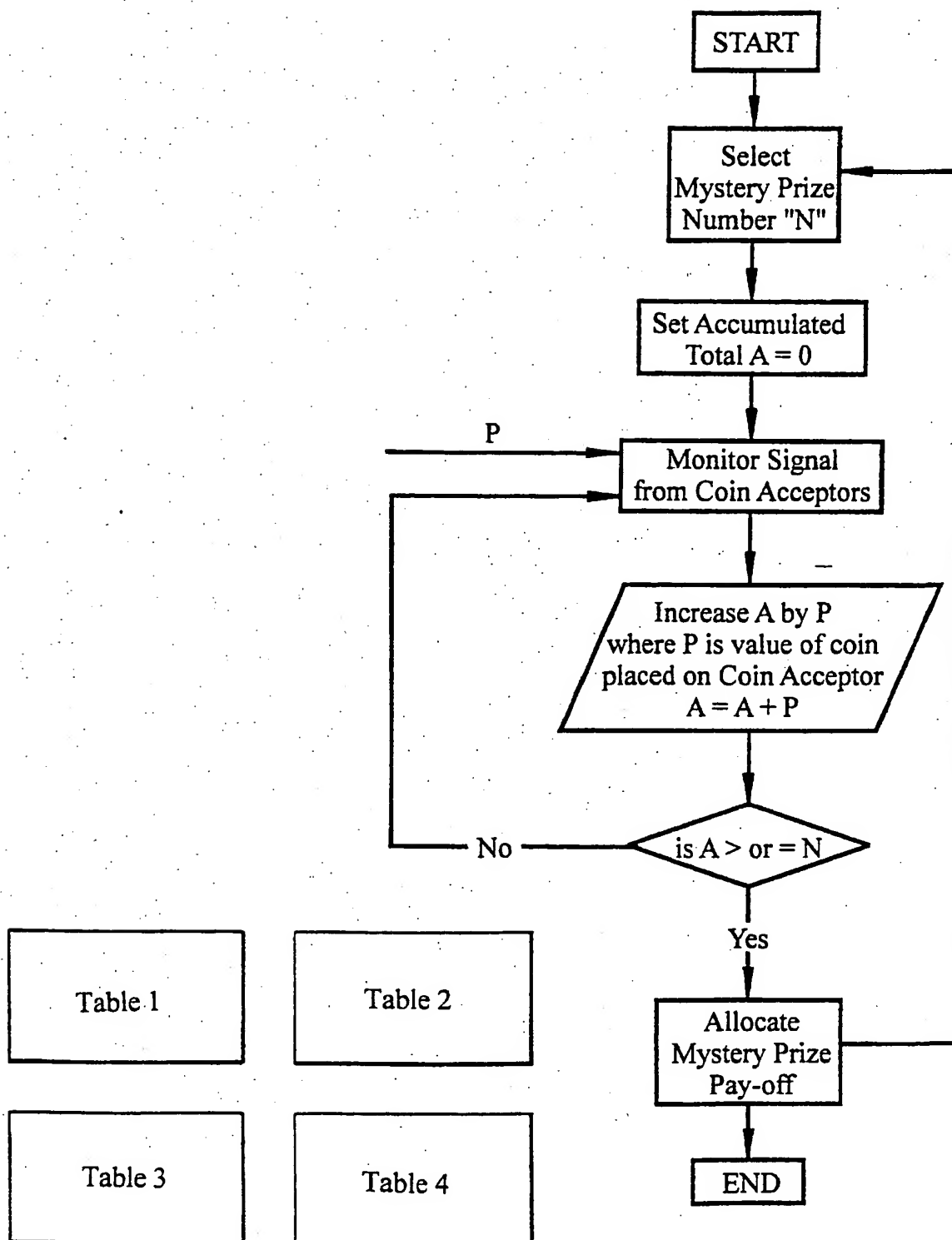


Fig. 8

Fig. 7

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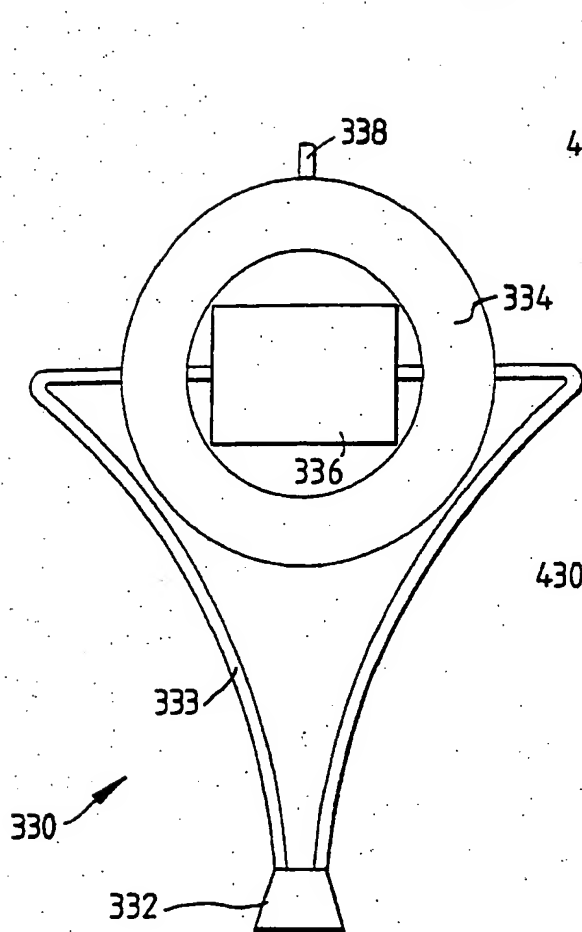


Fig. 9

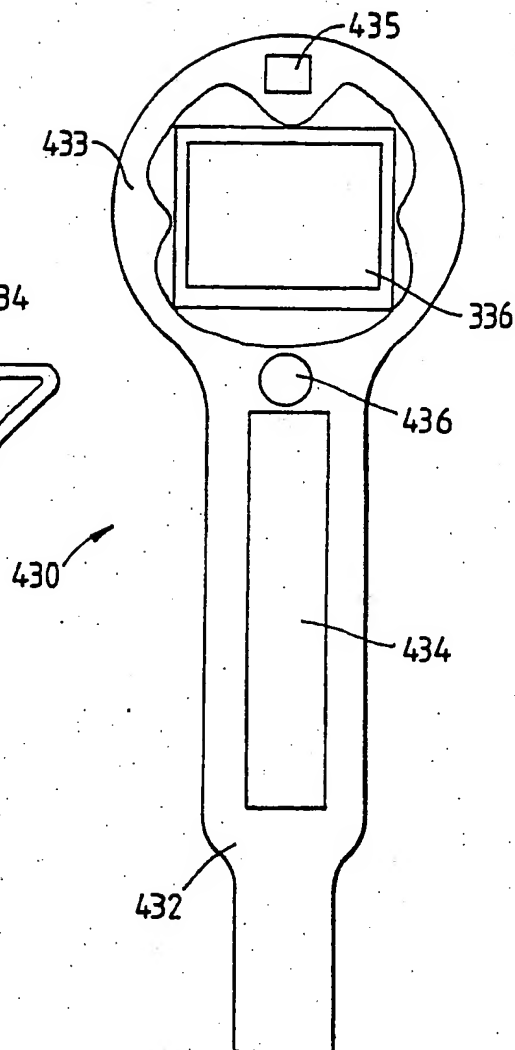


Fig. 10

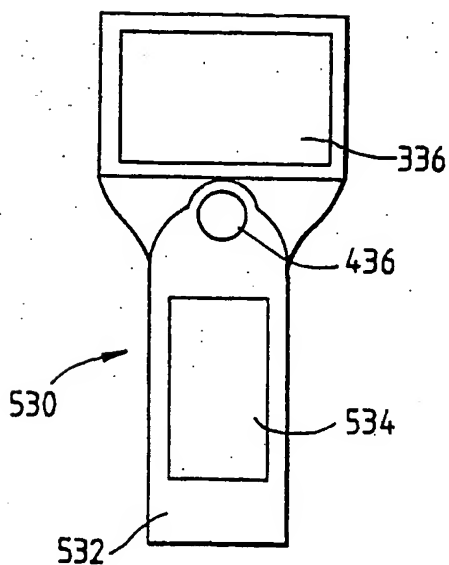


Fig. 11

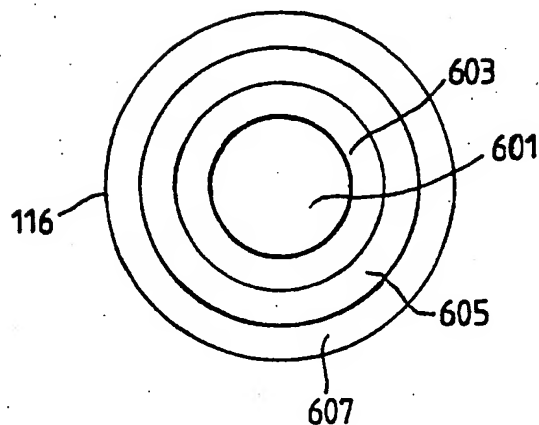


Fig. 12

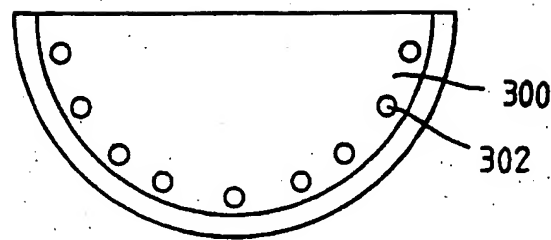


Fig. 13

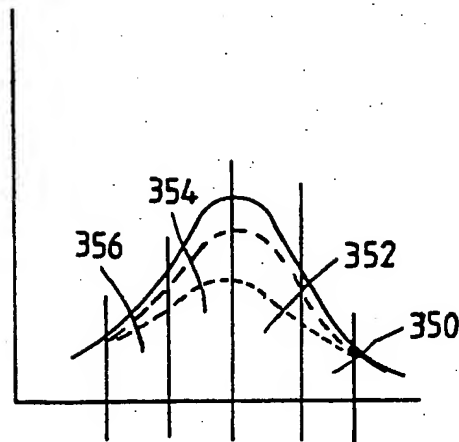


Fig. 14

INTERNATIONAL SEARCH REPORT

Interns 1 Application No

PCT/GB 99/00495

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 A63F3/00 A63F9/22

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 A63F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>WO 97 20605 A (SHUFFLE MASTER) 12 June 1997</p> <p>see abstract see page 7, line 3 - page 10, line 25 see page 30, line 25 - page 31, line 5 see claims 1,2,9-13</p> <p style="text-align: center;">--- -/--</p>	<p>1,3-8, 13,21, 25, 40-42, 44,45</p>

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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Date of the actual completion of the international search

9 June 1999

Date of mailing of the international search report

15/06/1999

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 99/00495

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 95 30944 A (FRANCHI) 16 November 1995 see page 15, line 3 - page 17, line 10 see page 19, line 8 - page 20, line 9 see page 23, line 4 - line 16 see page 32, line 4 - page 33, line 17 see claims 1,21,29,30; figures 5-7,10,14 ---	1-6, 9-11,15, 40-42, 44,47-55
X A	WO 97 18868 A (GAUDIOSO) 29 May 1997 see page 2, line 21 - line 27 see claims 1,2,9 ---	1-4,6, 48,51 21, 28-30,40
X A	WO 97 14484 A (MOLNICK) 24 April 1997 see page 3, line 2 - line 17 see page 3, line 27 - page 4, line 12 see page 5, line 22 - page 6, line 19 ---	1,4-8, 12-14, 40-42,44 51
X	EP 0 753 331 A (ANCHOR GAMING) 15 January 1997 see page 4, line 3 - line 13; figures 1-3 -----	1,6, 9-11,15, 40,47

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 99/00495

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